

Title (en)  
Method and apparatus for analyzing the characteristics of an optical circuit

Title (de)  
Verfahren und Gerät zur Kennzeichnungsbestimmung eines optischen Kreiss

Title (fr)  
Methode et appareil pour analyser les caractéristiques d'un circuit optique

Publication  
**EP 0702437 A1 19960320 (EN)**

Application  
**EP 94114090 A 19940908**

Priority  
• EP 94114090 A 19940908  
• EP 94112758 A 19940816

Abstract (en)  
This invention relates to a method and an apparatus for the measurement of amplified spontaneous emission (ASE) noise of an erbium-doped fiber amplifier in the presence of an optical signal. The known technique to perform ASE measurement at the actual signal wave length is called pulse-recovery technique. The disclosed technique requires two highly blocking optical switches for the incident and the outgoing laser beams of the amplifier having a short switching time and switching both beams synchronously with high accuracy. An inventive method comprises a first step in which a first optical signal is supplied to said optical circuit (7) via means for blocking (6) and in which second optical signal, generated by said optical circuit, is supplied to at least one means for analyzing (2, 10, 12) said second signal via said means for blocking (6) and a second step in which said first optical signal is blocked by said means for blocking (6) and in which said second optical signal is still supplied to said means for analyzing (2, 10, 12) said second signal via said means for blocking (6). <IMAGE>

IPC 1-7  
**H01S 3/06**; **G01M 11/00**

IPC 8 full level  
**G01M 11/00** (2006.01); **G02B 6/00** (2006.01); **H01S 3/06** (2006.01); **H01S 3/07** (2006.01)

CPC (source: EP US)  
**G01M 11/334** (2013.01 - EP US)

Citation (search report)  
• [A] US 5223705 A 19930629 - ASPELL JENNIFER [US], et al  
• [A] BERTILSSON ET AL.: "NOISE FIGURE OF ERBIUM DOPED FIBER AMPLIFIERS,ETC.", IEEE PHOTONICS TECHNOLOGY LETTERS, vol. 6, no. 2, 1 February 1994 (1994-02-01), pages 199 - 201, XP000439749, DOI: doi:10.1109/68.275427  
• [A] WALKER ET AL.: "GAIN AND NOISE CHARACTERISATION,ETC.", ELECTRONICS LETTERS, vol. 27, no. 9, 25 April 1991 (1991-04-25), pages 744 - 745, XP000186211  
• [A] SATO ET AL.: "NOISE FIGURE MONITORING,ETC.", IEEE PHOTONICS TECHNOLOGY LETTERS, vol. 6, no. 2, 1 February 1994 (1994-02-01), pages 202 - 204, XP000439750, DOI: doi:10.1109/68.275428  
• [A] PEDERSEN ET AL.: "DETAILED THEORETICAL AND EXPERIMENTAL INVESTIGATION,ETC.", IEEE PHOTONICS TECHNOLOGY LETTERS, vol. 2, no. 12, 1 December 1990 (1990-12-01), pages 863 - 865, XP000172356, DOI: doi:10.1109/68.62011

Cited by  
EP1351046A3; US6999177B2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 0702437 A1 19960320**; **EP 0702437 B1 19980527**; JP H08116111 A 19960507; US 5596440 A 19970121

DOCDB simple family (application)  
**EP 94114090 A 19940908**; JP 20350095 A 19950809; US 51174195 A 19950807